

1     **CLAIMS**

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3     1.     A method of inducing gamete maturation to be  
4           competent to fertilise in marine worms of the  
5           family *Arenicolidae* which exhibit epidemic  
6           spawning, said method comprising:  
7           providing maturing male and/or female worms in  
8           a housing substrate in sea water at a  
9           temperature of 4 to 8°C for a time period of  
10          14 to 24 days.

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12    2.     The method as claimed in Claim 1 wherein the  
13           worms are maintained at a temperature of 5 to  
14           7°C for 20 to 22 days.

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16    3.     A method for inducing spawning of marine worms  
17           of the family *Arenicolidae* which exhibit  
18           epidemic spawning, said method comprising  
19           inducing gamete maturation by the method of  
20           either one of Claims 1 and 2, and further  
21           comprising exposing the worms to a hormone  
22           able to induce gamete release.

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24    4.     The method of Claim 3 wherein said worms are  
25           male worms and said hormone is  
26           8,11,14-eicosatrienoic acid.

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28    5.     The method of Claim 3 wherein said worms are  
29           female worms and said hormone is provided as  
30           an homogenate of prostomium.

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- 1       6.     A method for inducing spawning of marine worms  
2             of the family *Arenicolidae* and which exhibit  
3             epidemic spawning, said method comprising  
4             inducing gamete maturation by the method of  
5             either one of Claims 1 and 2, and further  
6             including raising the temperature of the sea  
7             water to 12 to 14°C.  
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- 9       7.     The method as claimed in Claim 6 wherein the  
10            temperature of the sea water is increased at a  
11            rate of 1°C per hour to 12 to 14°C.  
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- 13      8.     The method as claimed in any one of Claims 1  
14             to 7 wherein said marine worms are  
15             *Arenicolidae marina* or *Arenicola defodiens*.  
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- 17      9.     The method as claimed in any one of Claims 1  
18             to 8 wherein said substrate is sand.  
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- 20      10.    The method as claimed in any one of Claims 1  
21             to 9 wherein said marine worms are cultured  
22             worms which have previously been maintained at  
23             a temperature of 14 to 16°C for at least one  
24             month.